

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number
WO 2004/005521 A1

- (51) International Patent Classification⁷: **C12N 15/63**, 5/14, C07K 14/495
- (21) International Application Number: **PCT/US2003/021159**
- (22) International Filing Date: **3 July 2003 (03.07.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data: **60/393,439** **3 July 2002 (03.07.2002)** **US**
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **EXPRESSION OF THE HUMAN IGF-1 IN TRANSGENIC PLASTIDS**

A. Native IGF-1

ggaccggagacgctctgcggggctgagctgggtgatgctcttcagttcgtgtgtggagacaggggctttatttcaacaagccacagg
gtatggctccagcagtcggaggcgccctcagacaggcatcgtggatgagtgcttccggagctgtgatctaaggaggctggagatg
tattgcgacccctcaagcctgccaagtcagct

B. Synthetic IGF-1

ggctcctgaaactttatgtggtgctgaattagtagatgctttacaattcgtatgtgggatcgtggtttctatttcaacaaacctactggttacggt
tcctctctcgtcgtgcctcctcaaacgtgattgtagatgaattgtgttccggtcttctgtattacgtcgttagaagtactgtgctccttataaa
cctgctaaatctgct

(57) Abstract: A plastid transformation vector for a stably transforming a plastid genome, comprising, as operably-linked components, a first flanking sequence, a DNA sequence coding for synthetic insulin-like growth factor-1 (IGF-1s) (seek ID NO. 1) or a substantially homologous DNA sequence of IGF-1s, which is capable of expression in the plastid genome, and a second flanking sequence.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/21159

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12N 15/63, 5/14; C07K 14/495

US CL : 435/320.1, 69.1, 419; 530/303

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/320.1, 69.1, 419; 530/303

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,070,075 A (ROTWEIN et al.) 03 December 1991 (03.12.1991), abstract and column 7, lines 1-11).	24
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Y		1-23, 25-38
Y	DANIELL, New Tools for Chloroplast Genetic Engineering, Nature Biotechnology, September 1999, Vol. 17, pages 855-856, seen entire article.	1-38
Y	US 5,866,421 A (MCBRIDE et al.) 02 February 1999 (02.02.1999), see Fig. 1, and column 2, line 66-column 3, line 40)	1-38
Y	US 6,271,444 B1 (MCBRIDE et al) 07 August 2001 (07.08.01), see Fig. 2, column 1, line 5- column 3, line 45)	1-38

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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document member of the same patent family

Date of the actual completion of the international search

20 October 2003 (20.10.2003)

Date of mailing of the international search report

14 NOV 2003

Name and mailing address of the ISA/US

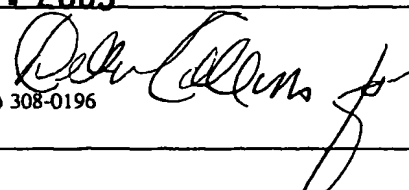
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INTERNATIONAL SEARCH REPORT

PCT/US03/21159

Continuation of B. FIELDS SEARCHED Item 3:

EAST, STN files Biosis, Caplus, Embase, Medline

search terms: vector, plastid, chloroplast, integrat?, igf, A + T content, psb, aad, trn